

1 IMPROVED BOAT HOOK ATTACHMENT

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3 Related Applications

4 This application is a continuation in part of U. S.
5 Application, Serial No. 10/268,588 filed Oct. 9, 2002, the
6 contents of which are incorporated by reference.

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8 FIELD OF THE INVENTION

9 This invention relates to nautical line handling devices,
10 and more particularly to an improved boat hook with an
11 integral clamp for handling and positioning mooring lines.

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13 BACKGROUND OF THE INVENTION

14 The present invention relates to boat hooks for the
15 purpose of providing an improved arrangement for positioning
16 an end loop of a boat line around a piling, cleat, or other
17 fixed object.

18 In the hands of a capable captain, a boat traveling at
19 moderate speeds in open water is considered to be relatively
20 safe from damage. However, as a boat approaches a dock or
21 slip, the boat will lose a great deal of maneuverability since
22 water flow past the boat rudders is greatly reduced. During
23 this time, the boat is at a high risk of damage should wind,
24 waves or current cause undirected movement of the boat. For
25 this reason, it is critical that the boat is secured to a
26 fixed object as quickly as possible.

1 By way of illustration, a common means for securing a
2 boat is by attachment to a piling. A piling is typically a
3 large wood or cement column embedded in the earth beneath the
4 water body. A free end of a line is formed into a loop and
5 placed around the piling, with the opposite end secured to the
6 boat. A problem, which this invention addresses, is the
7 difficulty in placing the looped end of the line around the
8 piling. Some boaters attempt to throw the loop, lasso-style,
9 while others rely on a second crew member for assistance.
10 Still other boaters employ a line handling device to place the
11 looped end of the mooring line around a piling or cleat.
12 Unfortunately, current line handling devices have many
13 shortcomings.

14 For example, U.S. Patent No. 3,841,685 discloses a line
15 handling device designed to secure a mooring line to a piling.
16 The device uses a slotted circle to lower a loop of line
17 around a piling. Unfortunately, this device is not adjustable
18 and, therefore, only works on pilings which fit within its
19 preset dimensions.

20 Some line handling devices, like U.S. Patent No.
21 4,004,539 and U. S. Patent No. 5,699,748, were designed with
22 large frames to accommodate pilings of various sizes. These
23 line handling devices were found to work with a wide variety
24 of pilings, but they also created new problems: they were hard
25 to store and required two-handed control of the device. This
26 two-handed line handling operation thereby reduced the

1 boater's ability to use his or her hands to control the boat
2 during docking.

3 Accordingly, one-handed line handling devices were
4 developed. U.S. Patent No. 4,009,181 discloses a line
5 handling device which places line-stiffening members onto the
6 looped end of a mooring line. This device allows one-handed
7 placement of a line, but poses preparation problems. For
8 example, based on weather or water currents, different numbers
9 of mooring lines may be required during different docking
10 sessions.

11 Accordingly, what is needed in the art is a boat hook and
12 line handling device that may be quickly, conveniently, and
13 effectively used to accommodate a variety of dock pilings or
14 cleats, and should also be is easy to store.

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1 SUMMARY OF THE INVENTION

2 The present invention is a line handling device used to
3 facilitate the handling of a mooring line when a user is
4 securing a boat to a dock or piling. The device employs a
5 clip connected to one end of an extendable pole, such as a
6 conventional boat hook. When attached to the handle, the clip
7 forms a biased slot between the handle and the clip in which
8 a docking line may be frictionally secured.

9 The distal end of the boat hook provides support for the
10 loop end of a mooring line which has been draped around the
11 outside contours of the hook portion. A length of line
12 greater than the distance between the hook and the clip
13 extends back along the handle to the clip. The line is
14 secured between the clip and the handle to keep the loop in
15 place.

16 The line handling device is used during the securing of
17 a boat to help a user place and secure the loop end of a
18 mooring line around a piling or dock cleat. First, the user
19 adjusts the loop end of the mooring line to create a loop
20 having a greater outer dimension than the piling or docking
21 cleat. Next, the user rests the loop on the hook portion of
22 the boat hook, positioning the line between the shaft of the
23 handle end of the hook. Extra length of line is then led
24 back to and secured in the clip. This shapes the loop so that
25 it may be lowered around a piling or dock cleat which is
26 within reach of the extendable pole. The user then lowers the

1 supported loop end of the mooring line around the cleat or
2 piling. Using a horizontal motion, the user pulls the device
3 away from the cleat or piling. As the device is drawn towards
4 the user, the mooring line's adjustable loop will engage the
5 cleat or piling and become separated from the boat hook. The
6 loop may then be drawn tight about the cleat or piling by
7 pulling on the mooring line's non-looped end.

8 After use, the line handling clip may be broken down for
9 storage by removing the clip from the extendable pole. IN one
10 embodiment, the clip is attached to the pole by a releasable
11 spring biased fastening. In another embodiment, the clip is
12 be mounted internally in the boat hook. The clip is usually
13 oriented parallel with the longitudinal axis of the pole and
14 may remain connected to the pole, if desired.

15 Accordingly, it is an object of the present invention to
16 provide a line handling device that facilitates the handling
17 and securing of a mooring line, without requiring special
18 preparation or alteration of the line.

19 Yet another object of the present invention is to provide
20 a line handling device that facilitates the handling and
21 securing of a mooring line, the device being self-contained
22 and having no components which separate from the device during
23 use.

24 A further object of the present invention is to provide
25 a line handling device that facilitates the handling and

1 securing of a mooring line, the device being modular and easy
2 to store.

3 Still another object of the present invention is to
4 provide a line handling device used to facilitate the handling
5 and securing of a mooring line, the device being capable of
6 use with several unaltered mooring lines during a single
7 mooring operation.

8 A further object of the present invention is to provide
9 a boat hook with telescoping section and a clip internally
10 mounted to extend through an aperture in the boat hook.

11 Another object of the present invention is to provide a
12 line handling device that is easily attached and removed from
13 any boat hook to facilitate a single clip's use on various
14 line handling devices, as needed.

15 Still another object of the present invention is to
16 provide a low cost clip that can be used on any diameter boat
17 hook, and any diameter line.

18 Other objects and advantages of this invention will
19 become apparent from the following description taken in
20 conjunction with the accompanying drawings wherein are set
21 forth, by way of illustration and example, certain embodiments
22 of this invention. The drawings constitute a part of this
23 specification and include exemplary embodiments of the present
24 invention and illustrate various objects and features thereof.

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1 BRIEF DESCRIPTION OF THE DRAWINGS:

2 FIG. 1 is a side view of one embodiment of the present
3 invention;

4 FIG. 2 is a side view of another embodiment of the
5 present invention;

6 FIG. 3 is a side view of another embodiment of the
7 present invention;

8 FIG. 4 is a side view partially in section of
9 another embodiment of the present invention;

10 Fig. 5 is a cross section along line 5-5 of Fig. 1;

11 Fig. 6 is a cross section along line 6-6 of Fig. 3;

12 Fig. 7 is a cross section of the embodiment of Fig. 4;

13 Fig. 8 is a cross section along line 8-8 of Fig. 4;

14 Fig. 9 is a cross section along line 9-9 of Fig. 4; and

15 Fig. 10 is a cross section along line 10-10 of Fig. 4.

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1 DETAILED DESCRIPTION OF THE INVENTION

2 Although the invention is described in terms of a
3 specific embodiment, it will be readily apparent to those
4 skilled in this art that various modifications, rearrangements
5 and substitutions can be made without departing from the
6 spirit of the invention. The scope of the invention is
7 defined by the claims appended hereto.

8 Reference is now made to Fig. 1, wherein the line
9 handling device 10 of the present invention is shown. The
10 device 10 comprises a clip 12 connected to an extendable pole
11 16 by an attachment. In Figure 1, the pole is a conventional
12 boat hook with an **h** shaped portion 13 on the distal end. The
13 clip is shown in phantom lines in the open position. A loop
14 of the mooring line 58 is loosely supported by the distal end
15 of the boat hook such that the shaft of the boat hook forms a
16 rigid diametrical arm, as shown in Fig. 2. An excess of line,
17 greater than the distance between the distal portion of the
18 hook and the clip 12, forms the loop 56. The line is held
19 in an open lasso shape by the **h** shaped portion 13 and between
20 the clip 12 and the end 14 of the boat hook. The lasso is then
21 manipulated by the boat hook to encircle the piling 60. After
22 the line is placed around the piling, the boat hook is removed
23 from the loop by pulling the boat hook away from the piling to
24 disengage the clip from the line.

1 As shown in Fig.s 1 and 5, the clip 12 is removably
2 connected to the pole 16 by an attachment in the form of a
3 semicircular clamp 17. The clamp may be made of any resilient
4 material with a circumference greater than one-half the
5 circumference of the boat hook shaft. The diameter of the
6 clamp is substantially the same as the diameter of the boat
7 hook shaft, as shown in Fig. 5, so that the resilience of the
8 clamp frictionally secures the clamp to the boat hook. Of
9 course, other fasteners may be incorporated in the clamp 17,
10 such as screws, brads, etc..

11 The clip 12 has a rounded elongated body 20 that tapers
12 to a smaller apex 23. One surface of the body has a
13 longitudinal groove 21 which accommodates the curvature of the
14 pole 16. The groove 21 may not extend the entire length of
15 the body. The smaller apex 23 is formed with a thickened
16 cross section 24 to reinforce the clip and to serve as a
17 retention device for the line. The thickened cross section 24
18 has a slightly curved inner surface which provides clearance
19 between the shaft and the clip for ease in feeding the line
20 into the slot between the boat hook and the clip.

21 The clip 12 is pivotally connected to the clamp 17 by a
22 hinge 19 mounted on a frame 18. Also fixed to the frame 18 is
23 one end of a coil spring 22 which is compressed as the clip 12
24 is moved away from the shaft of the boat hook. The other end
25 of the coil spring is attached to the end of the clip. The

1 spring adds a resilient grip to the clip for grasping the line
2 58.

3 Referring to Fig. 2, the clip 12 is identical in form to
4 the clip shown in the other Figures. The attachment is a
5 circular band 24 that encircles the boat hook shaft. By
6 forcing the band 24 about the shaft of the boat hook, a force
7 fit with a spring bias is effected to connect the clip to the
8 boat hook. The shaft of the boat hook may have a small
9 portion with an enlarged diameter to ensure the force fit.
10 The band 24 may be fixed to the boat hook by mechanical
11 fasteners, adhesives or molding. The clip 12 extends from the
12 band 24 at a fixed angle which will accommodate different
13 sized lines but will hold the line by a wedging action between
14 the boat hook and the clip. The apex 23 of the clip has an
15 enlarged solid plastic end 25 to aid in using the end of the
16 boat hook in the normal fashion, such as fending off.

17 In Fig.s 3 and 6, clip 12 is attached to the boat hook by
18 a bolt 26 and nut 27 extending through the juxtaposed ends 29
19 and 30 of a discontinuous band 28. The band 28 may be made of
20 resilient or malleable material to intimately conform to the
21 shaft of the boat hook. The clip 12 may pivot with a spring
22 bias as shown in Fig. 1 or fixed as shown in Fig. 2.

23 In the embodiment shown in Fig.s 4, 7, 8, 9, and 10, the
24 clip 12 is mounted on the interior of the boat hook shaft.
25 The extendable pole has an outer tube 31 that telescopes along
26 inner tube 32. Clip 12 is attached by a hinge 37 in the

1 tubular wall of inner tube 32 and forms a pivoting section of
2 the tubular wall. An internal spring 33 biases the clip 12 to
3 move away from the inner tubular wall. As shown in Fig. 4,
4 the spring 33 is a leaf spring in a V-shape with the legs
5 biased to move apart. The ends 34 and 35 of the spring are
6 attached to the tubular wall of tube 32 either permanently or
7 by detents 37 and 38. Tube 32 has a interior plug 36. The
8 base of the V-shaped leaf spring is fixed in the plug to allow
9 the legs 34 and 35 to flex. As the tubes move relative to
10 each other, in one direction, the clip 12 is uncovered and
11 springs outwardly. As the tubes move relative to each other,
12 in the opposite direction, the clip 12 is forced into
13 alignment with the tubular wall of the outer tube 31.

14 The outer tube 31 may be an integral part of the boat
15 hook shaft or a shorter separate element used to open and
16 close the clip.

17 In preparation for use of the device 10, the clip 12 is
18 placed on the boat hook with the clip at an acute angle with
19 the shaft of the boat hook. When so positioned, the free end
20 of a docking line is draped over the distal end of the pole
21 and brought back to the clip. The line is then wedged into
22 the slot between the pole and the clip and held in position by
23 the resiliency of the clip fastener.

24 When a suitable piling or cleat 60 is within line-
25 deployment range, the looped end 56 of the line 58 is placed
26 around the piling or cleat 60. Once the piling or cleat 60 is

1 located within the looped end 56 of the line 58, the device 10
2 is withdrawn from the piling or cleat 60. Upon withdrawal,
3 the looped end 56 of the mooring line 58 engages the piling
4 60. The loop end 58 may then be tightened around the piling
5 or cleat 60 by pulling on the non-looped end (not shown) of
6 the mooring line 58. Once the looped end has been drawn
7 tight, the line can then be secured to a boat, not shown, in
8 the normal manner.

9 After the line has been removed from the clip, the clip
10 may be removed from the pole or boat hook, if desired, and
11 placed in a storage compartment or pocket. Because the clip
12 is unobtrusive and aligned with the shaft of the pole, it may
13 remain secured to the pole.

14 It is to be understood that while we have illustrated and
15 described certain forms of my invention, it is not to be
16 limited to the specific forms or arrangement of parts herein
17 described and shown. It will be apparent to those skilled in
18 the art that various changes may be made without departing
19 from the scope of the invention and the invention is not to be
20 considered limited to what is shown in the drawings and
21 described in the specification.